

## Lab Report Template

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### 4.3.5 Drink this

## Problem

How does the bottled water hyvee pH level and Total Dissolved Solids (TDS) level compare to tap water from the New Sweden Dairy kitchen tap water and EPA standards.

## Hypothesis

We predicted that since the bottled water is probably more regulated than the tap water, it would be closer to EPA's standards than the tap water.

## Materials

- Tap water (Sweden Dairy kitchen sink)
- Bottled water (HyVee)
- Labquest 2
- pH Sensor
- conductivity sensor
- bottle rinse filled with distilled water
- 2 250 ml beaker to hold sample
- 1 250 ml beaker for rinshe

## Procedures

1. Obtain samples from the tap water and bottle water. Fill a beaker with roughly 150 ml of water for each sample.
2. Connect the pH sensor to the LabQuest and select a new experiment.
3. Place the sensor in the tap water sample making sure it is submerged until reading becomes stable. Then hit keep data.
4. After removing and rinsing the pH sensor from the tap sample, repeat for the bottle water sample.
5. After completing the bottle water sample, rinse the pH sensor and follow clean up procedures for this sensor.
6. Next, connect the conductivity sensor to the LabQuest and select a new experiment.
7. Place the sensor in the tap water sample making sure it is submerged until reading become stable. Then hit keep data.
8. Rinse the conductivity sensor with the distilled water, and repeat for the bottled water.
9. After completing the bottle water sample, rinse the conductivity sensor, dry, and follow clean up procedure for this sensor.
10. Double check data and write record in the lab notebook.

## Data Collection

	Tap	Bottled water	EPA standards
pH	6.72	8.62	6.5-8.5
Conductivity	260.0	9.6	<500 mg/L

## Analysis of Results

The tap water was the only water sample that met both of the EPA's standards for pH and conductivity. However, the pH for the bottled water was very close to meeting the EPA's standards, only having a 0.1 pH reading above the 8.5 threshold.

## Conclusions

Our hypothesis was wrong because the tap water was the only sample to meet the EPA's water standards for pH and conductivity. Our results were a little surprising because one would assume that all bottled water is meeting the EPA's water quality standards. However, these results are inconclusive and would need more samples in order to validate the results. Some other questions these results raise are: 1. What are bottled water companies doing to meet compliance with the EPA's standard, 2. Is there a filtration system for the tap water sample we obtained; if so, what would the results be without the system; and 3. How does the source of the water, (ground, surface, city, etc.) affect the pH and conductivity results?